

Method and Device for Conditioning Comminuted Tobacco Material
Serial No.: 09/921,351
Atty. Docket #: BATG-6

- d) both cellular wheel sluices are formed as pressure differential proof sluices,
- e) such that a hyperbaric pressure of more than 1 bar is maintained in said chamber.

7. (Original): The device as set forth in claim 6, wherein said nozzles are formed as ring nozzles.

8. (Original): The device as set forth in claim 7, wherein said ring nozzles are arranged flush with the inner surface of said chamber.

9. (Currently Amended): The device as set forth in claim 6, wherein the a discharge direction of said nozzles is inclined downwards.

10. (Currently Amended) The device as set forth in claim 6, wherein said a discharge direction of said nozzles, seen in a horizontal plane, extends at an angle of about 90° to the circumferential direction of said chamber.

11. (Original): The device as set forth in claim 6, wherein said chamber is provided with a heating jacket.

12. (Currently Amended): The device as set forth in claim 6, wherein said chamber is provided with a heating jacket, said heating jacket in vapor communication with a steam source.

Method and Device for Conditioning Comminuted Tobacco Material
Serial No.: 09/921,351
Atty. Docket #: BATG-6

13. (Original): The device as set forth in claim 6, wherein said chamber expands in an approximately tapered manner downwardly.

14. (Original): The device as set forth in claim 6, wherein said lower cellular wheel sluice, formed as a discharge sluice, has a slightly higher conveying volume than said upper cellular wheel sluice, formed as a feed sluice.

15. (Original): The device as set forth in claim 6, wherein an airflow dryer is connected to said lower cellular wheel sluice.

16. (Previously Added): A device for conditioning tobacco material, comprising:

a chamber having an inlet and an outlet;
a first wheel sluice at said inlet and a second wheel sluice at said outlet;
at least one water vapor nozzle located within said chamber;
said chamber maintaining a hyperbaric pressure of more than 1 bar.

17. (Previously Added): The device for conditioning tobacco material of claim 16 wherein said chamber is aligned in vertical direction, said inlet of said chamber vertically above said outlet of said chamber.

18. (Previously Added): The device for conditioning tobacco material of claim 17 wherein said at least one water vapor nozzle is comprised of a plurality of water vapor nozzles within an interior surface of said chamber.

19. (Previously Added): The device for conditioning tobacco material of claim 18 wherein said plurality of water vapor nozzles are directed downward.

Method and Device for Conditioning Comminuted Tobacco Material
Serial No.: 09/921,351
Atty. Docket #: BATG-6

20. (Previously Added) The device for conditioning tobacco material of claim 16 further comprising a heating jacket surrounding said chamber.

21. (Previously Added) The device for conditioning tobacco material of claim 17 wherein said tobacco material descends downward through said chamber from said inlet to said outlet.

22. (Previously Added) The device for conditioning tobacco material of claim 21 wherein said first wheel sluice and said second wheel sluice are pressure differential sluices.

23. (Previously Added) The device for conditioning tobacco material of claim 22 wherein said first wheel sluice has a first predetermined conveying volume and said second wheel sluice has a second predetermined volume, said first predetermined volume less than said second predetermined volume.

24. (Previously Added) The device for conditioning tobacco of claim 23 further comprising an airflow dryer in flow communication with said second wheel sluice.

25. (Currently Amended): A device for conditioning tobacco material, comprising:

a hyperbaric chamber having an inlet and an outlet;
a first pressure differential proof wheel sluice at said inlet of said hyperbaric chamber;
a second pressure differential proof wheel sluice at said outlet end of said hyperbaric chamber;

said second pressure differential proof wheel sluice having a larger conveying volume than
said first pressure differential proof wheel sluice;

a plurality of nozzles within said chamber in flow communication with a vapor source;

Method and Device for Conditioning Comminuted Tobacco Material
Serial No.: 09/921,351
Atty. Docket #: BATG-6

a heating jacket surrounding said hyperbaric chamber;

wherein a hyperbaric pressure of more than 1 bar is maintained within said chamber.

26. (Currently Amended): The device for conditioning tobacco material of claim 25 wherein said vapor source is superheated vapor in vapor communication with said heating jacket and having a temperature between about 100⁰ C and 200⁰ C.

27. (Currently Amended): A device for conditioning tobacco material, comprising:

a hyperbaric chamber having an upper inlet and a lower outlet and being tapered from said upper inlet to said lower outlet, said upper inlet having a pressure differential wheel sluice and said lower outlet having a pressure differential wheel sluice;

said hyperbaric chamber having at least one nozzle formed on an interior surface thereof in flow communication with a vapor source, said nozzle in flow communication with superheated vapor having a temperature between about 100⁰ C and 200⁰ C;

said hyperbaric chamber having a pressure of greater than 1 bar and having a heating jacket formed around an exterior surface, said heating jacket in vapor communication with said vapor source;

said pressure differential wheel sluice in said upper inlet having a lower conveying volume than said pressure differential wheel sluice in said lower outlet.

Claims 28 – 29 (Canceled)

Method and Device for Conditioning Comminuted Tobacco Material
Serial No.: 09/921,351
Atty. Docket #: BATG-6

30. (Previously Added): The device of claim 29 wherein said at least one nozzle in said chamber is a ring nozzle formed integral with said interior surface of said chamber.

31. (Currently Amended): A device for conditioning tobacco material, comprising:
a hyperbaric chamber having an upper inlet and a lower outlet and being tapered from said upper inlet to said lower outlet, said upper inlet having a first pressure proof differential wheel sluice and said lower outlet having a second pressure proof differential wheel sluice;
said second wheel sluice having a larger conveying volume than said first wheel sluice;
a plurality of ring nozzles integrated with an interior surface of said hyperbaric chamber, each of said ring nozzles in flow communication with a superheated vapor source of at least 100° C;
a heating jacket surrounding an exterior surface of said hyperbaric chamber, said heating jacket in flow communication with a heated vapor source;
wherein said hyperbaric chamber maintains an absolute pressure of about 2 to about 10 bars.